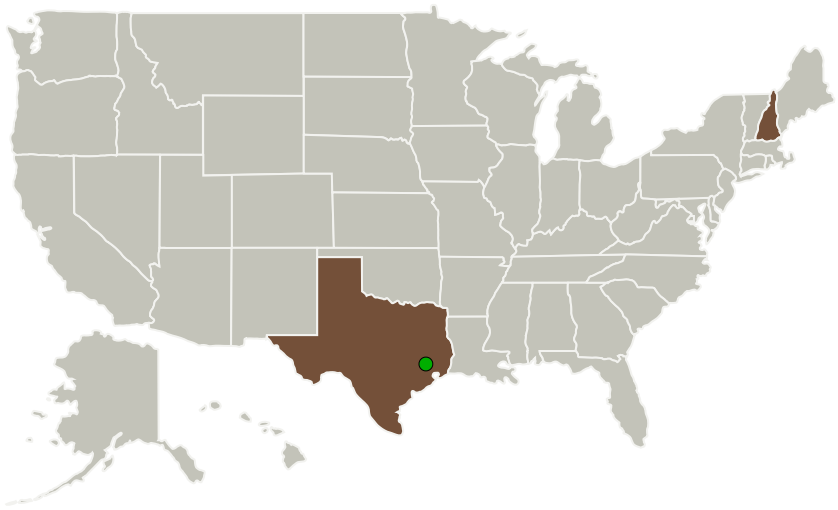
Compact, High-Accuracy Oxygen Flow Meter, Phase I

Completed Technology Project (2017 - 2017)

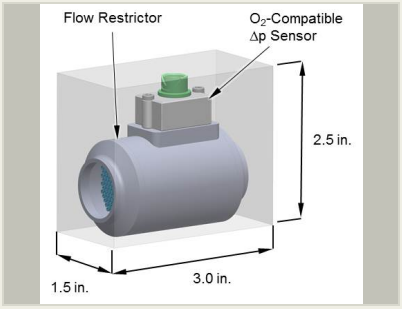
Project Introduction

Life support systems for future space suits will require advanced instrumentation to enable use of the suit for multiple missions. We propose to develop an oxygen flow meter for the space suit ventilation loop that will provide highly accurate flow measurements while meeting challenging requirements for low pressure drop, compact size, and durability. In Phase I, we will prove the feasibility of our approach through analyses and trade-off studies, proof-of-concept demonstrations, and prototype design. In Phase II, we will design and assemble prototype flow meters and measure their performance under conditions that simulate operation in a portable life support system.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Creare LLC	Lead Organization	Industry	Hanover, New Hampshire
Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas



Compact, High-Accuracy Oxygen Flow Meter, Phase I Briefing Chart Image

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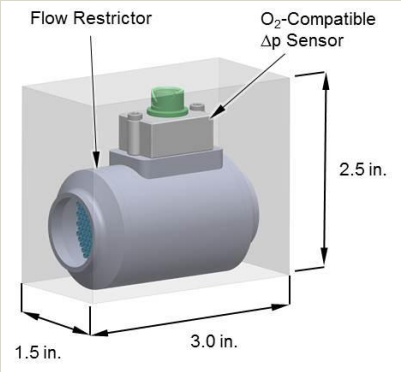
Primary U.S. Work Locations	
New Hampshire	Texas

Images



Briefing Chart Image
Compact, High-Accuracy Oxygen Flow Meter, Phase I Briefing Chart Image
(https://techport.nasa.gov/image/135364)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Creare LLC

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

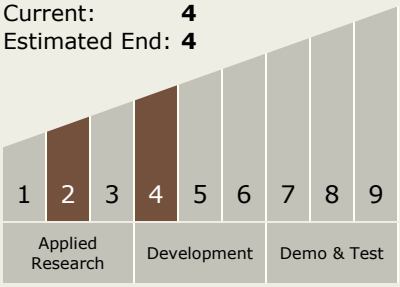
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Michael G Izenson

Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.2 Extravehicular Activity Systems
    - TX06.2.2 Portable Life Support System

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System